

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 03 FEB 2006

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Applicant's or agent's file reference PF040008	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2005/050022	International filing date (day/month/year) 04.01.2005	Priority date (day/month/year) 06.01.2004
International Patent Classification (IPC) or both national classification and IPC G06T7/00, H04N1/387		
Applicant THOMSON LICENSING SA et al.		


1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 03.11.2005	Date of completion of this report 07.02.2006
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Stoffers, C Telephone No. +31 70 340-3902



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP2005/050022

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-6 as originally filed

Claims, Numbers

3-9 as originally filed

1, 2 filed with telefax on 04.11.2005

Drawings, Sheets

1, 2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-8
	No: Claims	9
Inventive step (IS)	Yes: Claims	1-8
	No: Claims	9
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

- 1 Reference is made to the following document/s/:
- D1: US-A-5 077 811 (MASANORI ONDA) 31 December 1991 (1991-12-31)
 - D2: EP-A-0 710 003 (CANON K.K.) 1 May 1996 (1996-05-01)
 - D3: EP-A-1 059 608 (MATSUSHITA ELECTRIC INDUSTRIAL CO.) 13 December 2000 (2000-12-13)

- 2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 8 is not new in the sense of Article 33(2) PCT.

The document D1 discloses (the references in parentheses applying to this document):

Device for detecting the orientation of an image in a set of images (see abstract - an image orientation detecting function for detecting orientation of an character image), characterized in that it comprises the steps of:

- choosing a reference image from among the set of images (see Fig.2 and col 4, line 43-45 - comparing character images with reference characters)
- detecting the orientation of said image as a function of the orientation of the said reference image (col 4, line 58-68).

Therefore, the subject-matter of claims 1 is not new in the sense of Article 33(2) PCT.

- 3 The document D1 is regarded as being the closest prior art to the subject-matter of claim D1, and shows (the references in parentheses applying to this document):

Method for detecting the orientation of an image in a set of images (see abstract - an image orientation detecting function for detecting orientation of an character image), characterized in that it comprises the steps of:

- choosing a reference image from among the set of images (see Fig.2 and col 4,

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- line 43-45 - comparing character images with reference characters)
- detecting the orientation of said image as a function of the orientation of the said reference image (col 4, line 58-68).

The subject-matter of claim 1 differs from this known method in that the orientation of the reference image is used to detect the orientation of the images of each subset as a function of the orientation of said reference image.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as improving the simplifying the process or rotating a set of images

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) as none of the cited document D1, D2 or D3 discloses the teaching of choosing a reference image in each subset of image from among the set of images and to detect the orientation of the images of each subset as a function of the orientation of the said reference image

Claims 2-8 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

08. 11. 2005

Claims

(100)

1. Method for detecting the orientation of a set of images, said set of images containing subset of images, each image in a subset of images representing at least one similar object characterized in that it comprises the steps of:
 - choosing a reference *image* in each subset of image from among the set of images,
 - detecting the orientation of the images of each subset as a function of the orientation of the said reference image.
2. Method according to Claim 1, characterized in that it comprises a step of calculating the visual distance (D) between the reference image and the said image.
3. Method according to Claim 2, characterized in that it comprises a step of calculating the visual distance (D) between
 - the said image and the reference image,
 - the said image and the reference image having undergone a rotation of 90 degrees,
 - the said image and the reference image having undergone a rotation of 180 degrees,
 - the said image and the reference image having undergone a rotation of 270 degrees.
4. Method according to Claim 3, characterized in that it comprises a step of determining a subimage in the reference image and a subimage in the said image, the calculation of the visual distance (D) between the said image and the reference image being performed on the respective subimages.

5. Method according to Claim 4, characterized in that the said subimages have the same relative size with respect to the image in which each is positioned.
6. Method according to Claim 4, characterized in that the said subimages are centred with respect to the image in which they are positioned.
7. Method according to Claim 4, characterized in that the said subimages are positioned in such a way that the visual distance between the said subimages are minimal.
8. Method according to any one of the preceding claims, characterized in that it furthermore comprises a step of selecting the said reference image as a function of the distance between this reference image and the target image.
9. Device for detecting the orientation of an image in a set of images, characterized in that it comprises means for:
 - choosing a reference image from among the set of images,
 - detecting the orientation of the said image as a function of the orientation of the said reference image.